STAIRVILLE

DJ Lase 400-B Blue DMX

showlaser

th•mann
MUSIC IS OUR PASSION

user manual

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1 General notes

This user manual contains important information on safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device to other users, be sure that they also receive this manual.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

Symbols and signal words

This section provides an overview of the symbols and signal words used in this user manual.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
WARNING!	This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – high-voltage.
	Warning – laser radiation.

Warning signs	Type of danger
	Warning – suspended load.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for the projection of laser light effects. It has been designed exclusively for show applications. Use the device only as described in this user manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Laser safety basics

Laser safety requirements are based on DIN EN 60825-1. The corresponding accident prevention regulation of the Accident Prevention and Insurance Association in Germany is BGV-B2.

This device contains a class-3B laser. It is equipped with a safety key. Always remove the key when the device is not attended by a trained operator.

As an operator you are responsible for the safety of all persons present. Familiarize yourself with the laser safety regulations that apply in your country. To ensure safe operation, it is important to pay attention to the following instructions.

Prior to commissioning, the company/operator must appoint a qualified person as laser protection officer in writing and notify the operation of the laser equipment to the Accident Prevention and Insurance Association and to the authority responsible for occupational safety. In the event of public use, the complete laser equipment must be approved by an expert (e. g. the Technical Control Board TÜV) prior to commissioning.

Safety

DANGER!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present. Never remove any covers.

There are no user-serviceable parts inside.

DANGER!

Electric shock caused by short-circuit

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

DANGER!

Laser radiation – avoid exposure to beam

The device contains a class-3B laser, classified according to EN 60825-1. Do not look into the laser beam. The laser beam can injure your eyes when you directly look into it. Do not expose yourself to the laser beam. The laser beam can cause skin burns.

In this context take extreme care when using converging optical instruments.

WARNING!

Eye damage caused by high light intensity

Never look directly into the light source.

WARNING!

Risk of epileptic shock

Strobe lighting can trigger seizures in photosensitive epilepsy. Sensitive persons should avoid looking at strobe lights.

NOTICE!

Laser radiation – risk of fire

Keep the area exposed to laser radiation free from flammable substances.

NOTICE!

Risk of fire

Do not cover the device nor any ventilation slots. Do not place the device near any direct heat source. Keep the device away from naked flames.

NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

NOTICE!

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

NOTICE!

Risk of fire due to incorrect polarity

Incorrectly inserted batteries may destroy the device or the batteries.

Ensure that proper polarity is observed when inserting batteries.

NOTICE!

Possible damage by leaking batteries

Leaking batteries can cause permanent damage to the device.

Take batteries out of the device if it is not going to be used for a longer period.

3 Features

This showlaser is specially suited for discos, clubs, bars, small stages, etc. and can be easily integrated into the light show.

Special features of this device:

- Control via DMX (8 channels), via infrared remote control and via buttons and display on the unit
- Built-in automatic show programmes
- Sound control
- Master / slave mode
- 32 different patterns
- Blue laser diode (400 mW)

4 Installation

Unpack and carefully check that there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the device against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

You can install the device on the wall, ceiling or floor. A mounting bracket and the necessary screws are included in the package.

DANGER!

Laser radiation

During installation you have to follow the instructions given here: *Chapter 2 'Safety instructions' on page 8*.

To avoid unintended laser radiation, remove the safety switch before you start the installation of the device.

WARNING!

Stray laser radiation

Inadequately secured additional components may cause stray laser radiation.

Make sure that all additional components are adequately secured.

WARNING!

Risk of injury caused by falling objects

Make sure that the installation complies with the standards and rules that apply in your country. Always secure the device with a secondary safety attachment, such as a safety cable or a safety chain.

NOTICE!

Risk of overheating

The distance between the light output and the illuminated surface must be more than 0.5 m (19.7 in).

Always ensure sufficient ventilation.

The ambient temperature must always be below 40 °C (104 °F).

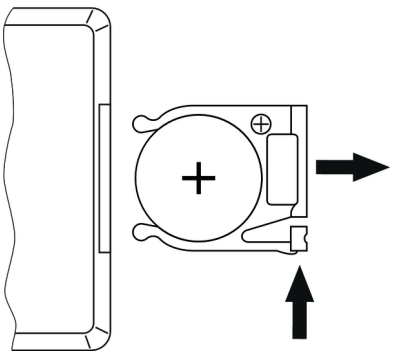
DMX connections

The unit offers a 3-pin XLR socket for DMX output and a 3-pin XLR plug for DMX input. Please refer to the drawing and table below for the pin assignment of a suitable XLR plug.

Pin	Configuration
1	Ground, shielding
2	Signal inverted (DMX–, 'cold signal')
3	Signal (DMX+, 'hot signal')

Insert the battery into the remote control

Push the lock of the battery holder towards the centre of the housing and pull out the battery holder like a drawer. Insert the battery. The battery is correct, if the positive pole points to the housing bottom of the remote control. Slide the battery holder back into the remote until it clicks into place.



5 Starting up

Establish all connections as long as the unit is switched off. Use the shortest possible high-quality cables for all connections.

DANGER!

Laser radiation

When starting up the device, you have to follow the instructions given here:
↳ *Chapter 2 'Safety instructions' on page 8*.

NOTICE!

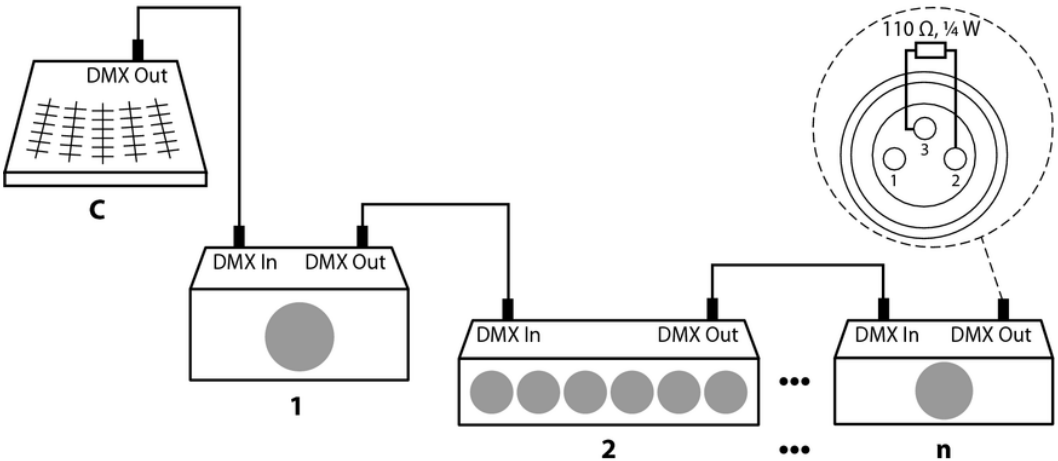
Possible data transmission errors

For error-free operation make use of dedicated DMX cables and do not use ordinary microphone cables.

Never connect the DMX input or output to audio devices such as mixers or amplifiers.

Connections in DMX mode

Connect the DMX input of the device to the DMX output of a DMX controller or another DMX device. Connect the output of the first DMX device to the input of the second one, and so on to form a daisy chain. Always ensure that the output of the last DMX device in the daisy chain is terminated with a resistor (110 Ω, ¼ W).

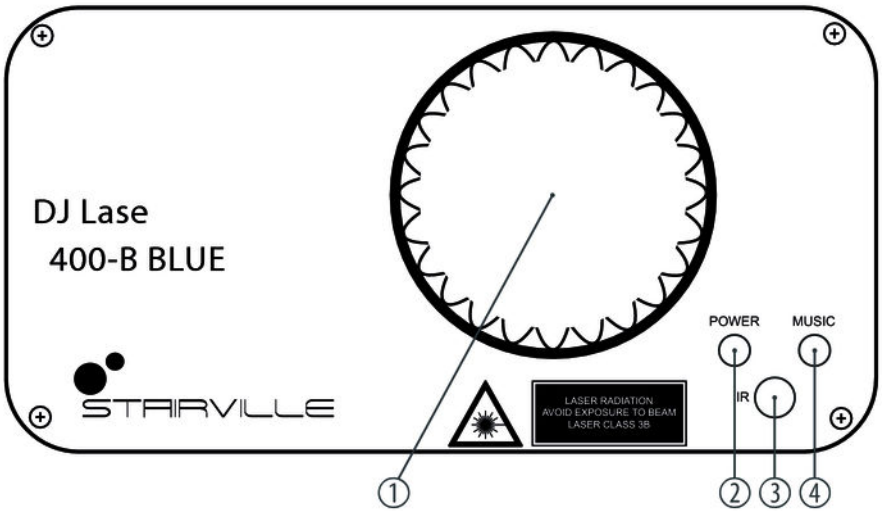


Connections in master/slave mode

When you configure a group of devices in master/slave mode, the first unit will control the other units for an automatic, sound-activated, synchronized show. This function is ideal when you want to start a show immediately. Connect the DMX output of the master device to the DMX input of the first slave device. Then connect the DMX output of the first slave device to the DMX input of the second slave device and so on.

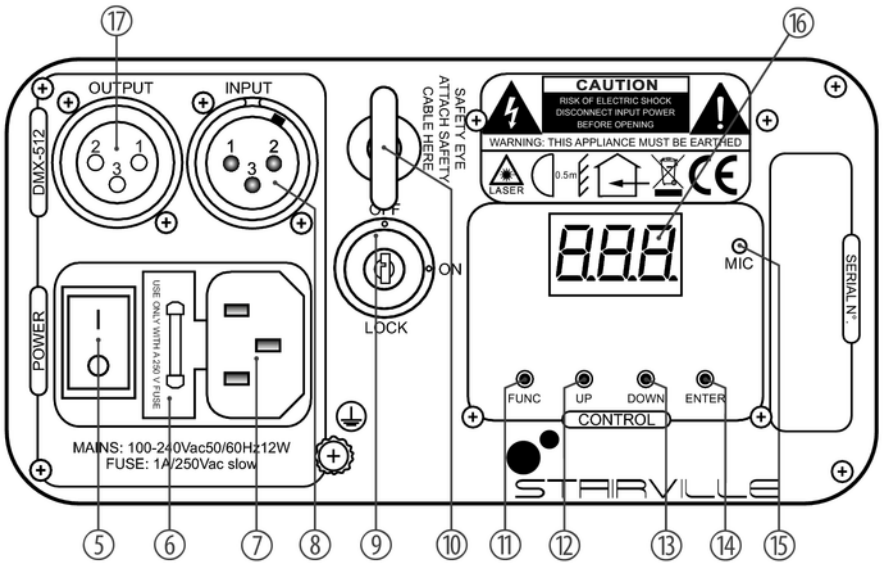
6 Components and functions

Front panel



1	Laser aperture
2	**POWER** Indicates that the unit is switched on.
3	**IR** Infrared sensor for remote control signals.
4	**MUSIC** Indicates that a sound signal is received. Lights up briefly on incoming infrared signals from the remote.

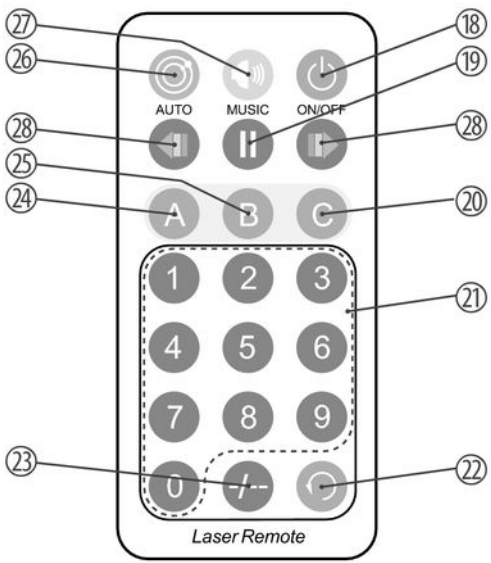
Rear panel


17
16
OUTPUT
INPUT
DMX-512
POWER
CAUTION
RISK OF ELECTRIC SHOCK
DISCONNECT INPUT POWER
BEFORE OPENING
WARNING: THIS APPLIANCE MUST BE EARTHED
LASER
0.5m
SAFETY EYE
ATTACH SAFETY
CABLE HERE
OFF
ON
LOCK
MIC
SERIAL N°
USE ONLY WITH A 250 V FUSE
MAINS: 100-240Vac50/60Hz12W
FUSE: 1A/250Vac slow
FUNC
UP
DOWN
ENTER
CONTROL
STARVILLE
5
6
7
8
9
10
11
12
13
14
15

5	**POWER** Mains switch to turn the unit on or off.
6	Fuseholder with fuse.
7	IEC chassis connector for the mains cable. Beneath, the proper operating voltage is indicated.
8	**INPUT** DMX input.
9	**LOCK** Safety key switch to turn the laser output on or off.
10	Safety eye.
11	**FUNC** Opens up the main menu.
12	**UP** Increases the indicated value by one.

13	**DOWN** Decreases the indicated value by one.
14	**ENTER** Select an option of the respective operating mode.
15	**MIC** Microphone for operating mode ‘Sound Controlled’.
16	Display.
17	**OUTPUT** DMX output.

Remote control



18	*[ON/OFF]* When the device is in 'auto show' mode or runs a selftest keep this button pressed for several seconds to change to remote operation. If the device is already in remote operation mode you can use this button to switch the laser on or off.
19	Pauses a running show or restarts it.
20	*[C]* To change to the next pattern.
21	Numeric keypad for direct input of values (microphone sensitivity or pattern number, ↬ *Chapter 7.5 'Pattern list' on page 41*). To enter two digit numbers, press the *[-/--]* key (23) before entering the first and second digit.
22	Starts the automatic change between the last two selected patterns.
23	Press this button before entering two digit numbers.
24	*[A]* To change to the previous pattern.

25	*[B]* To change the sensitivity and thus the response characteristic of the microphone. First, press the *[MUSIC]* button, then press *[B]* followed by a button *[0]* to *[9]* on the numeric keypad.
26	Starts a automatic show in random order.
27	*[MUSIC]* Starts a sound controlled automatic show in random order.
28	No function.

7 Operation

7.1 Starting the device

Carry out the following steps to take the unit into operation:

1. Check to see whether all laser safety precautions have been taken. Make sure that nobody is in range of the laser beam.
2. Insert the safety key into the lock (9) and turn it into the 'OFF' position.
3. If not already done, connect the device to a mains power outlet (7).
4. Turn the unit on using the main switch (5). After a few seconds the fan and the motors start to work. The display shows the current operating mode. The unit is now operational.
5. Turn the safety key (9) into the 'ON' position to turn the laser beam on.

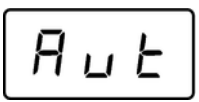
7.2 Main menu

Press the *[FUNC]* button to activate the main menu and select one of the operation modes.

When the display is flashing, use the *[UP]* and *[DOWN]* buttons to change the respectively shown value. When the display shows the desired value, press 'ENTER'. To discard all changes and exit back to the main menu press *[FUNC]* or wait a minute.

All previous settings are saved even if you disconnect the device from the mains power supply.

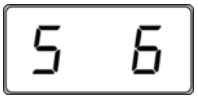
Operating mode 'Auto Show'



Press *[FUNC]* until the display shows Aut. The device operates in stand alone mode and displays a preprogrammed show that may run sound controlled via the built-in microphone, if desired. Use the *[UP]* and *[DOWN]* buttons to select one of the preprogrammed shows listed in the table below. Press *[ENTER]* to save the value and to start operation in 'Auto Show' mode.

Display	Show
Aut	Automatic show in random order
Sou	Sound-controlled automatic show in random order

Response characteristic



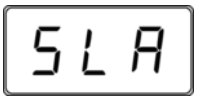
Press *[FUNC]* until the display shows S 6 and starts flashing. In this menu the sensitivity and thus the response characteristic of the microphone is set. Use the *[UP]* and *[DOWN]* buttons to select the settings 'S 0' (sensitivity = 0, operation mode 'Sound-controlled' off) or „S 1" (low sensitivity) to „S 9" (high sensitivity). Press *[ENTER]* to save the setting.

Operation mode 'DMX'

Press *[FUNC]* until the display shows 001. Now you can adjust the number of the first DMX channel (DMX address) used by the unit. Select a value between 1 and 505 using the *[UP]* and *[DOWN]* buttons. Press *[ENTER]* to store the value and to start operation in DMX mode.

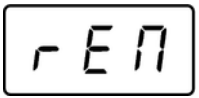
Make sure that this number corresponds with the configuration of your DMX controller.

Operation mode 'Master/Slave'



Press *[FUNC]* until the display shows SLA. In this operation mode the unit follows exactly the master device that it is connected to. Press *[ENTER]* to confirm and to start operation in 'Master/Slave' mode.

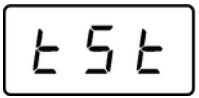
Operation mode ‘Remote Control’



Press *[FUNC]* until the display shows rEM. Press *[ENTER]* to confirm and to start operation in ‘Remote Control’ mode.

In this operating mode you can control the unit comfortably by remote. Take care that the infrared sensor on the front panel of the device is not obstructed.

Selftest



Press *[FUNC]* until the display shows tSt. Press *[ENTER]* to start the selftest. Press *[FUNC]* again and select another menu item to stop the selftest.

7.3 Menu overview

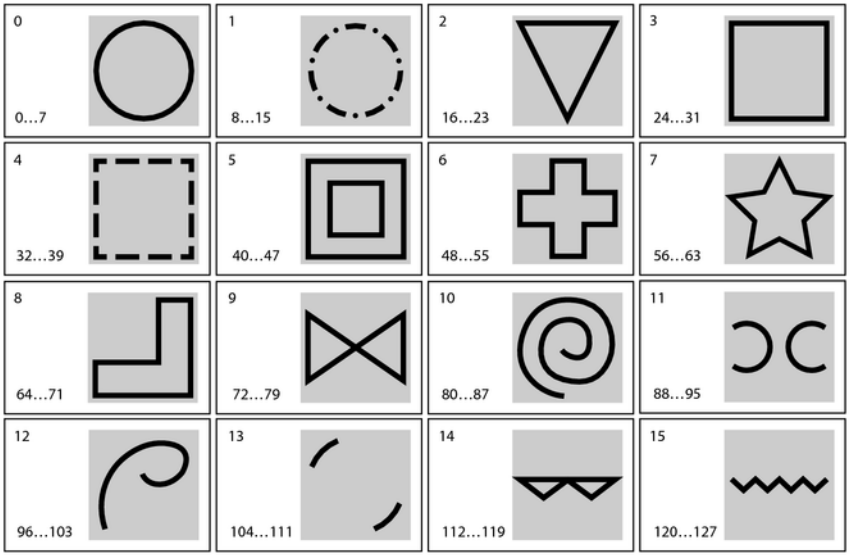
7.4 Functions in 'DMX' mode

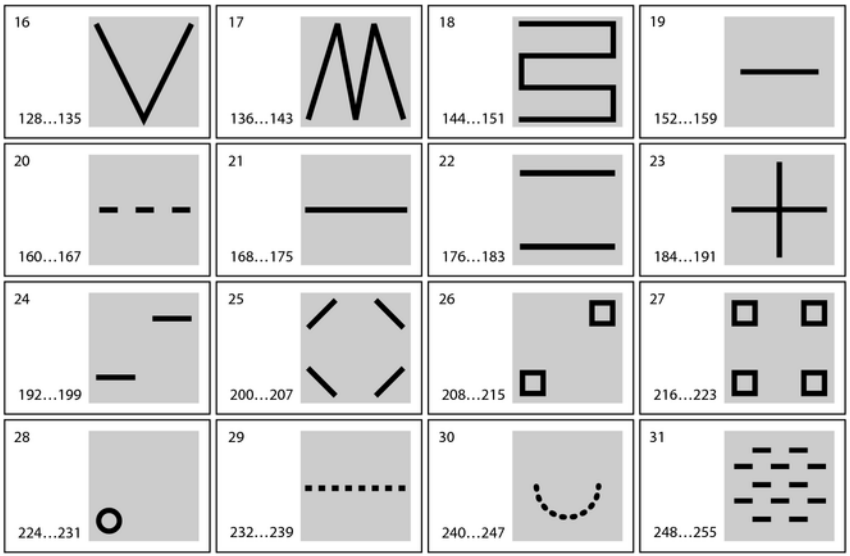
Channel	Value	Function
1	Operating mode selection	
	0…63	Laser off
	64…127	Automatic show in random order
	128…191	Sound controlled automatic Show in random order
	192…255	Operating mode 'DMX': this setting activates the function of the other DMX channels
2	0…255	Pattern selection (*Chapter 7.5 'Pattern list' on page 41*)
3	Zoom	
	0…127	Fixed zoom
	128…169	Zoom-in effect, increasing speed
	170…209	Zoom-out effect, increasing speed

Channel	Value	Function
	210…255	Alternating zoom effect, increasing speed
4	Rotation around the Y-axis (rolling)	
	0…127	Fixed position of Y-axis (0…359°)
	128…191	Rotation effect clockwise, increasing speed
	192…255	Rotation effect anti-clockwise, increasing speed
5	Rotation around the X-axis (rolling)	
	0…127	Fixed position of X-axis (0…359°)
	128…191	Rotation effect clockwise, increasing speed
	192…255	Rotation effect anti-clockwise, increasing speed
6	Rotation around the Z-axis (rolling)	
	0…127	Fixed position of Z-axis (0…359°)
	128…191	Rotation effect anti-clockwise, increasing speed
	192…255	Rotation effect clockwise, increasing speed

Channel	Value	Function
7	X-axis movement	
	0…127	Fixed positions on X-axis
	128…191	Movement effect clockwise, increasing speed
	192…255	Movement effect anti-clockwise, increasing speed
8	Y-axis movement	
	0…127	Fixed positions on Y-axis
	128…191	Movement effect clockwise, increasing speed
	192…255	Movement effect anti-clockwise, increasing speed

7.5 Pattern list




16
128...135
17
136...143
18
144...151
19
152...159
20
160...167
21
168...175
22
176...183
23
184...191
24
192...199
25
200...207
26
208...215
27
216...223
28
224...231
29
232...239
30
240...247
31
248...255

7.6 Stopping the device

1. Turn the safety key (9) into the 'OFF' position to switch the laser beam off, then remove the key. Keep the safety key in a safe place.
2. Turn off the main switch (5) of the device.
3. Additionally you can disconnect the device from the mains power supply (7).

8 Troubleshooting

DANGER!

Laser radiation inside the housing

During troubleshooting you have to comply with the instructions given here:
Chapter 2 'Safety instructions' on page 8.

Any servicing of the unit (with open housing) must only be carried out by qualified technicians.

For working on the device you have to wear suitable laser safety goggles.

In the following we list a few common problems that may occur during operation. We give you some suggestions for easy troubleshooting:

Symptom	Remedy
The unit does not work, no light, the fan does not run	1. Check the mains power connection and the main fuse.
	2. Check the safety key switch.
No response to DMX controller	1. If the display indicates a flashing figure, e.g. '001', no DMX signal is received. Check the DMX connections and cables for proper connection.
	2. If the display is not flashing and the unit does not respond check the address settings and the DMX polarity.
	3. Try to use another DMX controller.
	4. Check to see if the DMX cables run near or alongside to high voltage cables that may cause damage or interference to DMX interface circuits.
No response to remote control	1. Check to see that the unit is in operation mode 'Remote Control'. The display has to show rEn.
	2. Try to use the remote control with a different angle to the sensor on the front panel. If the device receives a signal from the remote control the 'MUSIC' lights up briefly.
	3. Check the remote control battery.

If the procedures recommended above do not succeed, please contact our Service Center. You can find the contact information at *www.thomann.de*.

9 Cleaning

DANGER!

Laser radiation

During cleaning you have to follow the instructions given here: *Chapter 2 'Safety instructions' on page 8*.

To avoid unintended laser radiation, remove the safety switch before you begin to clean the device.

Optical lenses

Clean the exterior of accessible optical lenses periodically to optimise light output. The frequency of cleaning depends on the operating environment: wet, smoky or particularly dirty surroundings can cause more accumulation of dirt on the optics of the device.

- Clean with a soft cloth using normal glass cleaning products.
- Always dry the parts carefully.

10 Technical specifications

Laser medium	Blue: 450 nm (typical), LD GaAlAs
Laser power	400 mW
Laser classification acc. to EN 60825-1 2007	3B
Beam diameter at outlet aperture	< 5 mm
Pulses	All pulses < 4 Hz (> 0.25 s)
Divergence (per beam)	< 2 mrad
Divergence (overall light)	< 160°
Number of DMX channels	8
Battery (remote control)	Lithium coin battery, CR 2025, 3 V
Operating voltage supply	AC 110…240 V ~, 50/60 Hz
Fuse	5 mm × 20 mm, 1,0 A, 250 V, slow blow
Power consumption	12 W

Dimensions (W × D × H)	145 mm × 160 mm × 80 mm
Weight	1.3 kg

11 Protecting the environment

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

Do not just dispose these materials with your normal household waste, but make sure that they are fed to a recovery. Please follow the notes and markings on the packaging.

Disposal of batteries

Batteries must not be disposed of as domestic waste or thrown into fire. Dispose of the batteries according to national or local regulations regarding hazardous waste. To protect the environment, dispose of empty batteries at your retail store or at appropriate collection sites.

Disposal of your old device

This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE). Do not dispose with your normal household waste.

Dispose this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.

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